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## AIIMS Logical Reasoning Pipes and Cistern 2023 Part 3 NET, IAS, State-SET (KSET, WBSET, MPSET, etc.), GATE, CUET, Olympiads etc.

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1. Pipes A and B can fill a tank in 5 and 6 hours respectively. Pipe C can empty it in 12 hours. If all the three pipes are opened together, then the tank will be filled in?

- A.  $1\frac{13}{17}$  hours
- B.  $2\frac{8}{11}$  hours
- C.  $3\frac{9}{17}$  hours
- D.  $4\frac{1}{2}$  hours

Answer: C

2. Three pipes A, B and C can fill a tank from empty to full in 30 minutes, 20 minutes and 10 minutes respectively. When the tank is empty, all the three pipes are opened. A, B and C discharge chemical solutions P, Q and R respectively. What is the proportion of solution R in the liquid in the tank after 3 minutes?

- A.  $\frac{5}{11}$
- B.  $\frac{6}{11}$
- C.  $\frac{7}{11}$
- D.  $\frac{8}{11}$

Answer: B

3. Two pipes A and B can separately fill a cistern in 60 min and 75 min respectively. There is a third pipe in the bottom of the cistern to empty it. If all the three pipes are simultaneously opened, then the cistern is full in 50 min. In how much time, the third pipe alone can empty the cistern?

- A. 90 min
- B. 100 min
- C. 110 min
- D. 120 min

Answer: B

4. A pump can fill a tank with water in 2 hours. Because of a leak, it took  $2\frac{1}{3}$  hours to fill the tank. The leak can drain all the water of the tank in?

A.  $4\frac{1}{3}$  hrs

B. 7 hrs

C. 8 hrs

D. 14 hrs

Answer: D

5. Two pipes A and B together can fill a cistern in 4 hours. Had they been opened separately, then B would have taken 6 hours more than A to fill cistern. How much time will be taken by A to fill the cistern separately?

A. 1 hrs

B. 2 hrs

C. 6 hrs

D. 8 hrs

Answer: C

6. One pipe can fill a tank three times as fast as another pipe. If together the two pipes can fill tank in 36 min, then the slower pipe alone will be able to fill the tank in?

A. 81 min

B. 108 min

C. 144 min

D. 192 min

Answer: C

7. A tank is filled in 5 hours by three pipes A, B and C. The pipe C is twice as fast as B and B is twice as fast as A. How much time will pipe A alone take to fill the tank?

A. 20 hrs

B. 25 hrs

C. 35 hrs

D. Cannot be determined

E. None of these

Answer: C

8. A tank is filled by three pipes with uniform flow. The first two pipes operating simultaneously fill the tank in the same during which the tank is filled by the third pipe alone. The second pipe fills the tank 5 hours faster than the first pipe and 4 hours slower than the third pipe. The time required by the first pipe is?

- A. 6 hrs
- B. 10 hrs
- C. 15 hrs
- D. 30 hrs

Answer: C

9. Two pipes A and B can fill a tank in 15 min and 20 min respectively. Both the pipes are opened together but after 4 min, pipe A is turned off. What is the total time required to fill the tank?

- A. 10 min 20 sec
- B. 11 min 45 sec
- C. 12 min 30 sec
- D. 14 min 40 sec

Answer: D

10. A large tanker can be filled by two pipes A and B in 60 and 40 minutes respectively. How many minutes will it take to fill the tanker from empty state if B is used for half the time and A and B fill it together for the other half?

- A. 15 min
- B. 20 min
- C. 27.5 min
- D. 30 min

Answer: D

11. Three taps A, B and C can fill a tank in 12, 15 and 20 hours respectively. If A is open all the time and B and C are open for one hour each alternately, the tank will be full in?

- A. 6 hrs
- B.  $6\frac{2}{3}$  hrs
- C. 7 hrs
- D.  $7\frac{1}{2}$  hrs

Answer: C

12. Two pipes can fill a tank in 20 and 24 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is?

- A. 60 gallons
- B. 100 gallons
- C. 120 gallons
- D. 180 gallons

Answer: C

13. Two pipes A and B can fill a cistern in  $37\frac{1}{2}$  minutes and 45 minutes respectively. Both pipes are opened. The cistern will be filled in just half an hour, if the pipe B is turned off after?

- A. 5 min
- B. 9 min
- C. 10 min
- D. 15 min

Answer: B

14. Three pipes A, B and C can fill a tank in 6 hours. After working at it together for 2 hours. C is closed A and B can fill the remaining part in 7 hours. The number of hours taken by C alone to fill the tank is?

- A. 10
- B. 12
- C. 14
- D. 16

Answer: C

15. A tap can fill a cistern in 8 hours and another can empty it in 16 hours. If both the taps are opened simultaneously the time (in hours) to fill the tank is

- A. 8
- B. 10
- C. 16
- D. 24

Answer: C